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14. ABSTRACT
The 10th International Meeting on Cholinesterases was organised jointly by the Institute for Medical Research and Occupational Health and the Croatian Society of Biochemistry and Molecular Biology. The meeting venue was in Šibenik, Croatia. The meeting gathered about 200 participants including 50 participants from USA. The scientific program comprised 2 plenary lectures, 86 oral and 102 poster presentations grouped under six sessions, and a 3D-session. All presentations were about cholinesterase research that is widely multidisciplinary, from very fundamental (molecular structure, catalytic mechanism, genetics and evolution, cell biology) to more applied aspects (natural and synthetic cholinesterase inhibitors in Alzheimer's disease therapy; antidotes to anti-cholinesterase poisoning from nerve agents and pesticides).
The *Programme and Abstracts* book is published. Proceedings comprising both oral and poster presentations will be published in the Elsevier journal *Chemico-Biological Interactions* (CBI) as full length papers or short communications.

15. SUBJECT TERMS
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Introduction

The 10th International Meeting on Cholinesterases was organized jointly by the Institute for Medical Research and Occupational Health (IMI) and the Croatian Society of Biochemistry and Molecular Biology (CSBMB) under the auspices of the Croatian Academy of Sciences and Arts. The meeting venue was in Šibenik, Croatia, known for its scenic beauty and wealth of cultural and historical landmarks. As the 10th meeting, it is a jubilee meeting on its own, but it was also a special jubilee for the organizers because Elsa Reiner and IMI organized the first meeting in the series. The past meetings took place in different countries and on different continents: Split, Croatia (1975), Bled, Slovenia (1983), La Grande Motte, France (1990), Eilat, Israel (1992), Madras, India (1994), La Jolla, USA (1998), Pucon, Chile (2002), Perugia, Italy (2004) and Suzhou, China (2007). The meeting gathered about 200 participants from all continents and 28 countries including 25 participants from Croatia. It was sponsored by Croatian government, academia and companies, as well as foreign and international research institutions. It was repeatedly pointed out throughout the meeting that DTRA was one of the main sponsors. The meeting was organized by an International Advisory Board and Croatian Organizing Board:

INTERNATIONAL ADVISORY BOARD: Gabi Amitai (Israel), Steve Brimijoin (USA), Bhupendra P. Doctor (USA), Peter Eyer (Germany), Ezio Giacobini (Switzerland), Susan Greenfield (UK), Zoran Grubič (Slovenia), Nibaldo Inestrosa (Chile), David Lenz (USA), Oksana Lockridge (USA), Marcello Lotti (Italy), Patrick Masson (France), Jean Massoulie (France), Daniel Quinn (USA), Zoran Radić (USA), Terrone Rosenberry (USA), Richard Rotundo (USA), Avigdor Shafferman (Israel), Israel Silman (Israel), Hermona Soreq (Israel), Joel Sussman (Israel), Vincenzo Talesa (Italy), Palmer W. Taylor (USA), Jean-Pierre Toutant (France), Karl W.K. Tsim (China).

CROATIAN ORGANISING BOARD: Elsa Reiner and Zrinka Kovarik (Chairs), Ana Lucić Vrdoljak (Director of IMI), Jadranka Varljen (President of CSBMB), Sanja Milković-Kraus, Goran Šinko, Maja Katalinić, Suzana Berend, Anita Bosak, Lara Batičić.

Body

The 10th International Meeting on Cholinesterases was a multidisciplinary gathering of scientists in the field of cholinesterases from very fundamental to more applied aspects focused on molecular and cellular features of the nervous system. The meeting brought together scientists from 28 countries to discuss biomedical advances made in this field over the last three years since the previous meeting was held.

The objective of this series of meetings is to provide an international forum for discussion and collaboration between scientists within the field of cholinesterases in general, and organophosphate cholinesterase inhibitors in particular, with sessions that focus on the role of cholinesterases in nerve agent research. Chemical terrorism has emerged as an important global problem that knows no national boundaries and therefore requires a coordinated international effort to develop effective counter measures. Accordingly, the research response to the development of counter measures against such weapons/toxicants should be global and coordinated, and it should involve scientists from countries with records of research and expertise. These meetings provide a means for avoiding duplication of effort and promote essential sharing of materials and results. Historically these meetings have instilled a tradition of

cooperation between investigators from different countries that comes from formal and informal communication during such meetings.

The scientific program comprised two plenary lectures, oral presentations grouped under six sessions, and a 3D-session, as follows:

1. Structure of cholinesterases and related α/β hydrolase-fold proteins (Chairpersons: Palmer Taylor, USA and Joel Sussman, Israel)

2. Molecular biology and cell biology of cholinesterases, and alternative functions of cholinesterases (Chairpersons: Hermona Soreq, Israel and Joel Massolie, France)

3. Interaction of cholinesterases with substrates, inhibitors and reactivators (Chairpersons: Terrone Rosenberry, USA and Patrick Masson, France)

4. Anticholinesterases: Mechanisms of toxicity, detoxication and therapy, and counter-terrorism strategies (Chairpersons: David Lenz, USA and Peter Eyer, Germany

5. Enzymes other than cholinesterases reacting with anticholinesterase agents (Chairpersons: Marcello Lotti, Italy and Gabi Amitai, Israel)

6. Diseases related to cholinesterases, and therapy with cholinesterase inhibitors (Chairpersons: Ezio Giacobini, Switzerland and Manfred Windisch, Austria)

3D – Session: (Chaipersons: Zoran Radić, USA and Martin Weik, France).

The list of plenary and invited speakers (in order of speaking) is enclosed at the end of the report.

There were no parallel sessions so that participants could attend all oral presentations. This is important because the field of cholinesterase research is widely multidisciplinary, from very fundamental (molecular structure, catalytic mechanism, genetics and evolution, cell biology) to more applied (natural and synthetic cholinesterase inhibitors in Alzheimer's disease therapy, defence against anti-cholinesterase poisoning, pesticides and environment).

Cholinesterase inhibitors are unique amongst the insidious agents in chemical terrorism in that the target is well defined, and progress involving prophylactic and antidotal therapy has been made through scavenging and pharmacological agents. The meeting served to coordinate scientific endeavour that relates to detection of nerve agents, analysis of their site and specificity of action, delineation of genetic differences that dictate individual variation in susceptibility to these agents and the development of new antidotes and prophylactic protection from toxicity. Since nerve agents and agricultural pesticides have common general mechanisms of action, the meeting brought together investigators from diverse disciplines to offer distinct perspectives on toxicity and human susceptibility to nerve agents, pesticides and other anticholinesterases.

Key Research Accomplishments

- 44 lectures were given by invited speakers.
- 42 short oral presentations, a novel feature of the program, were given primarily by young researchers.
- A total of 102 posters were displayed throughout the meeting and presented also during two poster sessions. The posters were reviewed by a four-member committee, and the best poster received an award from the *Biochemical Journal*.

Reportable Outcomes

Every participant received the *Programme and Abstracts* book on registration [1].

Proceedings comprising both oral and poster presentations will be published in the Elsevier journal *Chemico-Biological Interactions* (CBI) as full length papers or short communications. The proceedings of the 8th and 9th International Meeting on Cholinesterases were published in CBI as well [2, 3].

More details about the meeting can be found at the meeting website – http://10-che.imi.hr.

Conclusion

Over more than three decades, the meeting participants have created "a family" that is continuously incorporating new members, thereby broadening and expanding worldwide contacts and collaboration in the cholinesterase field. This trend hopefully will persist in the future at next meeting, the 11th Meeting on Cholinesterases, which will be held in Russia.

References

1. The 10th International Meeting on Cholinesterases,20-25 September 2009, Šibenik, Croatia, Programme and Abstracts (Zrinka Kovarik, Editor), Croatian Society of Biochemistry and Molecular Biology, p. 1-250, http://10-che.imi.hr/file/10ChE_Programme.pdf
2. Proceedings of the VIII International Meeting on Cholinesterases, Perugia, Italy, September 26-30, 2004 (Vicenzo N. Talesa and Cinzia Antognelli, Guest Editors), Chemico-Biological Interactions, Special Issue, Vol. 157-158, 2005.
3. Proceedings of the IX International Meeting on Cholinesterases, Suzhou, China, May 8-10, 2007 (Karl W.K. Tsim, Bhupendra P. Doctor, and Nina L. Siow, Guest Editors), Chemico-Biological Interactions, Special Issue, Vol. 175, 2008.

Appendices

LIST OF SPEAKERS (in order of speaking)

PLENARY SESSION

Palmer Taylor (La Jolla, USA): THE ROAD FROM SPLIT TO ŠIBENIK: A TORTUOUS PATH WITH GLOBAL COUSINS, CONNECTIONS AND COLLABORATIONS

Joel L Sussman (Rehovot, Israel) The EMBO Plenary Lecture: ACETYLCHOLINESTERASE: "CLASSICAL" AND "NON-CLASSICAL" FUNCTIONS DERIVED FROM 3D STRUCTURES

SESSION 1: Structure of Cholinesterases and Related α/β Hydrolase-fold Proteins

Doriano Lamba (Trieste, Italy): THE YIN AND THE YANG OF *Torpedo californica* ACETYLCHOLINESTERASE REVERSIBLE AND PSEUDO IRREVERSIBLE INHIBITION: A STRUCTURAL AND MECHANISTIC OUTLOOK

Florian Nachon (La Tronche Cedex, France): CRYSTAL STRUCTURES OF HUMAN CHOLINESTERASES INHIBITED BY TABUN AND V-AGENTS

Sergei Varfolomeev (Moscow, Russia): BIOINFORMATICS AND QUANTUM/MOLECULAR MECHANICS IN ANALYSIS OF STRUCTURE, ELEMENTARY ACTS AND SPECIFICITY OF CHOLINESTERASES: HUMAN MOLECULAR POLYMORPHISM

Jacques-Philippe Colletier (Grenoble, France): A STRUCTURAL EXPLANATION FOR THE RESIDUAL ACTIVITY OF THE FAS/AChE COMPLEX

Benoît Sanson (Grenoble, France): CRYSTAL STRUCTURES OF ACETYLCHOLINESTERASE IN COMPLEX WITH THE PERIPHERAL SITE INHIBITOR AFLATOXIN SUGGESTS A WAY TO STUDY PROTEIN DYNAMICS

Pascale Marchot (Marseille, France): STRUCTURE-FUNCTION RELATIONSHIPS OF NEUROLIGIN AND ITS β-NEUREXIN COMPLEX

Antonella De Jaco (Rome, Italy): PROCESSING ANOMALIES OF NEUROLIGIN 3 CAUSED BY MUTATIONS IN THE α/β-HYDROLASE FOLD DOMAIN

SESSION 2: Molecular Biology and Cell Biology of Cholinesterases and Alternative Functions of Cholinesterases

Hermona Soreq (Jerusalem, Israel): DIVERSE FEATURES AND MICRO-RNA REGULATION OF ALTERNATIVE AChE VARIANTS

Shelly Camp (La Jolla, USA): CONTRIBUTIONS OF TRANSGENIC STUDIES TO UNDERSTANDING CHOLINESTERASE DISPOSITION AND FUNCTION

Eric Krejci (Paris, France): CONTROL OF MUSCLE CONTRACTION BY ACETYLCHOLINESTERASE

Xue-Jun Zhang (Shanghai, China): SMAD3 NUCLEAR ACCUMULATION INDUCES ACETYLCHOLINESTERASE TRANSCRIPTION DURING CELL APOPTOSIS

Karl WK Tsim (Hong Kong, China): PRiMA DIRECTS THE LOCALIZATION OF TETRAMERIC AChE: PROBING THE POSSIBLE FUNCTIONS OF THIS ENZYME IN MUSCLES, NEURONS AND OSTEOBLASTS

Richard L Rotundo (Miami, USA): TRANSLATIONAL AND POST-TRANSLATIONAL REGULATION OF ACETYLCHOLINESTERASE EXPRESSION AND ASSEMBLY *in vitro* AND *in vivo*

Susan A Greenfield (Oxford, UK): ROLE OF AChE-DERIVED C TERMINAL PEPTIDES IN BRAIN FUNCTION AND DYSFUNCTION

Leo Pezzementi (Birmingham, USA): EVOLUTION OF VERTEBRATE CHOLINESTERASES: AN INTERMEDIATE CHOLINESTERASE FROM A TELEOST FISH, THE MEDAKA (*Oryzias latipes*)

Arnaud Chatonnet (Montpellier, France): EVOLUTION OF CHOLINESTERASES IN THE ANIMAL KINGDOM

Anna Hrabovska (Bratislava, Slovakia): GENERATION OF THE MONOCLONAL ANTIBODIES AGAINST BUTYRYLCHOLINESTERASE

Claire Legay (Paris, France): ColQ DOES MORE THAN ANCHORING CHOLINESTERASES AT THE NEUROMUSCULAR JUNCTION

Janez Sketelj (Ljubljana, Slovenia): MOTOR NERVES REGULATE THE EXPRESSION OF AChE-ASSOCIATED COLLAGEN Q IN RAT MUSCLES

Alexander G Karczmar (Maywood, USA): CHOLINESTERASES AND THE CHOLINERGIC SYSTEM IN ONTOGENESIS, AND THEIR NON-SYNAPTIC ROLE

Eran Finkel (Jerusalem, Israel): CELLULAR ORIGIN OF ACETYLCHOLINESTERASE IN THE NEUROMUSCULAR JUNCTION

Lisa Li (Hong Kong, China): HIGH-LEVEL EXPRESSION OF ACTIVE HUMAN BUTYRYLCHOLINESTERASE IN SILK WORM LARVAE BY THE BAC-TO-BAC SYSTEM

Andrea Robin Durrant (Jerusalem, Israel): ENDOCRINE REGULATION OF SERUM BUTYRYLCHOLINESTERASE ACTIVITY IN NORMAL AND DYSTROPHIC-DEFICIENT MUTANT MICE

SESSION 3: Interaction of Cholinesterases with Substrates, Inhibitors and Reactivators

Daniel M Quinn (Iowa City, USA): ACCUMULATION OF TETRAHEDRAL INTERMEDIATES IN CHOLINESTERASE CATALYSIS: A SECONDARY ISOTOPE EFFECT STUDY

Jure Stojan (Ljubljana, Slovenia): EVIDENCE FOR NON-PRODUCTIVE SUBSTRATE BINDING INTO THE ACTIVE SITE OF VERTEBRATE ACETYLCHOLINESTERASE

Terrone L Rosenberry (Jacksonville, USA): SELECTIVE INTRODUCTION OF EQUILIBRIUM ASSUMPTIONS PROVIDES AN ALGEBRAIC FORMULATION OF COMPETITIVE INHIBITION CONSTANTS FOR ACETYLCHOLINESTERASE

David Sept (St Louis, USA): CYCLIC PEPTIDES AS PROPHYLACTIC AGENTS FOR ACETYLCHOLINESTERASE

Galina Makhaeva (Chernogolovka, Russia): MECHANISM OF INHIBITION OF SERINE ESTERASES BY FLUORINATED AMINOPHOSPHONATES

Zoltan Rakonczay (Szeged, Hungary): *In vitro* INHIBITION OF ACETYL- AND BUTYRYLCHOLINESTERASES BY CARBAMATES AND ORGANOPHOSPHATES AND THEIR DERIVATIVES IN DIFFERENT INVERTEBRATE AND VERTEBRATE TISSUES, INCLUDING HUMAN

William Stephen Brimijoin (Rochester, USA): CYSTEINE-REACTIVE AGENTS TARGET INSECT ACETYLCHOLINESTERASE – POTENTIAL FOR SPECIES-SELECTIVE PESTICIDES

Chang-Guo Zhan (Lexington, USA): STRUCTURE-AND-MECHANISM-BASED DESIGN OF SUBSTRATE-SELECTIVE HIGH-ACTIVITY MUTANTS OF CHOLINESTERASES

Serge N Moralev (St Petersburg, Russia): INVESTIGATION OF STRUCTURE-ACTIVITY RELATIONSHIPS IN ORGANOPHOSPHATES – CHOLINESTERASE INTERACTION USING DOCKING ANALYSIS

Paul R Carlier (Blacksburg, USA): REDESIGN OF TACRINE TO CREATE ACHIEVE POTENT AND SELECTIVE INHIBITION OF *Anopheles gambiae* ACETYLCHOLINESTERASE

Patrick Masson (La Tronche Cedex, France): STRUCTURAL APPROACH TO THE AGING OF PHOSPHYLATED CHOLINESTERASES

Zoran Radić (La Jolla, CA): INTERACTION KINETICS OF OXIMES WITH NATIVE, PHOSPHYLATED AND AGED HUMAN ACETYLCHOLINESTERASE AND BUTYRYLCHOLINESTERASE

Zrinka Kovarik (Zagreb, Croatia): OXIME-ASSISTED REACTIVATION OF PHOSPHORYLATED BUTYRYLCHOLINESTERASE

Goran Šinko (Zagreb, Croatia): INTERACTIONS OF PYRIDINIUM OXIMES WITH ACETYLCHOLINESTERASE

Chunyuan Luo (Silver Spring, USA): OXIME REACTIVATION OF ACETYLCHOLINESTERASES FROM VARIOUS SPECIES AFTER INHIBITION BY NERVE AGENTS WITH BULKY SIDE-CHAIN: A DISCUSSION FOR THE MECHANISM OF POTENT REACTIVATION ABILITY OF H OXIMES

Apurba K Bhattacharjee (Silver Spring, USA): *In silico* 3D-QSAR PHARMACOPHORE AND STEREOELECTRONIC MODELS FOR TABUN, AND DFP-INHIBITED ACETYLCHOLINESTERASE REACTIVATORS USEFUL FOR DISCOVERY OF NOVEL NEUROLOGIC THERAPEUTICS

Veena Beri (Delhi, India): EDIBLE PLANTS AS STOREHOUSE OF CHEMICALS AFFECTING THE ACTIVITY OF ACETYLCHOLINESTERASE FROM ELECTRIC EEL

Richard K Gordon (Silver Spring, USA): PRO-2-PAM THERAPY FOR CENTRAL AND PERIPHERAL CHOLINESTERASES

Gregory E Garcia (Silver Spring, USA): NOVEL OXIMES AS BLOOD-BRAIN BARRIER PENETRATING CHOLINESTERASE REACTIVATORS

Tsung-Ming Shih (Aberdeen Proving Ground, USA): *In vivo* REACTIVATION OF BLOOD, BRAIN AND TISSUE CHOLINESTERASE ACTIVITY INHIBITED BY ORGANOPHOSPHORUS NERVE AGENTS AT A LETHAL DOSE

SESSION 4: Anticholinesterases: Mechanisms of Toxicity, Detoxication and Therapy, and Counter-Terrorism Strategies

David Lenz (Aberdeen Proving Ground, USA): BUTYRYLCHOLINESTERASE AS A DRUG FOR PROTECTION AGAINST ORGANOPHOSPHORUS POISONS: SUCCESSES AND CHALLENGES

Avigdor Shafferman (Ness Ziona, Israel): NEXT GENERATION OF OP-BIOSCAVENGERS

Douglas Cerasoli (Aberdeen Proving Ground, USA): CHARACTERIZING THE EXTENT OF PROTECTION AFFORDED BY HUMAN BUTYRYLCHOLINESTERASE AGAINST NERVE AGENT POISONING

Yvonne Rosenberg (Rockville, USA): PHARMACOKINETICS OF DIFFERENT FORMS OF PEGYLATED RECOMBINANT BCHE IN HOMOLOGOUS MACAQUES FOLLOWING MULTIPLE DOSING AND ROUTES OF DELIVERY

Madhusoodana P Nambiar (Silver Spring, USA): INNOVATIVE HUPERZINE A ANALOGS WITH DIFFERENT DEGREES OF REVERSIBLE ACHE INHIBITION AND OPTIMAL NMDA ANTAGONISM: BIOLOGICAL ACTIVITY AND NEUROPROTECTION AGAINST NERVE AGENTS AND BLAST EXPOSURE

Franz Worek (Munich, Germany): EVALUATION OF MEDICAL COUNTERMEASURES AGAINST ORGANOPHOSPHORUS COMPOUNDS: THE VALUE OF EXPERIMENTAL DATA AND COMPUTER SIMULATIONS

Zoran Grubič (Ljubljana, Slovenia): THE EFFECTS OF DFP ON THE PRECURSORS OF HUMAN MUSCLE REGENERATION

Peter Eyer (Munich, Germany): PARADOX FINDINGS MAY CHALLENGE ORTHODOX REASONING IN ACUTE ORGANOPHOSPHORUS POISONING

Susana G Rossi (Miami, USA): INDUCED OVEREXPRESSION OF ACETYLCHOLINESTERASE BY PRAD-KDEL PEPTIDES IN CULTURE AND *in vivo*

Michael Eddleston (Newcastle, UK): A GOTTINGEN MINIPIG MODEL OF DIMETHOATE ORGANOPHOSPHORUS PESTICIDE POISONING

SESSION 5: Enzymes Other than Cholinesterases Reacting with Anticholinesterase Agents

Marcello Lotti (Padova, Italy): SOLUBLE PHENYL-VALERATE ESTERASES OF HEN SCIATIC NERVE AND THE PROMOTION OF ORGANOPHOSPHATE INDUCED DELAYED POLYNEUROPATHY

Eugenio Vilanova (Alicante, Spain): INHIBITION WITH SPONTANEOUS REACTIVATION AND "ONGOING INHIBITION" EFFECT OF ESTERASES BY THE BIOTINYLATED ORGANOPHOSPHORUS COMPOUNDS: S9B AS A MODEL

Gabi Amitai (Ness Ziona, Israel): ENZYMATIC DETOXIFICATION OF NERVE AGENTS AT HIGH BULK AND SURFACE CONCENTRATIONS

Yacov Ashani (Rehovot, Israel): STEREOSPECIFIC SYNTHESIS OF ANALOGS OF NERVE AGENTS AND THEIR USE FOR SELECTION AND CHARACTERIZATION OF PARAOXONASE CATALYTIC SCAVENGERS

Oksana Lockridge (Omaha, USA): A NEW MOTIF FOR ORGANOPHOSPHORUS AGENT BINDING TO PROTEINS THAT HAVE NO ACTIVE SITE SERINE

Colin J Jackson (Canberra, Australia):THE STRUCTURAL BASIS FOR THE EVOLUTION OF ORGANOPHOSPHATE RESISTANCE

Dragomir Draganov (Ashland, USA): LACTONASES WITH ORAGNOPHOSPHATASE ACTIVITY: STRUCTURAL AND EVOLUTIONARY PERSPECTIVES

Ashima Saxena (Silver Spring, USA): DEVELOPING CATALYTIC BIOSCAVENGERS FOR THE PROPHYLAXIS OF CHEMICAL WARFARE AGENT TOXICITY

Daniel Jun (Hradec Kralove, Czech Republic): PREPARATION OF METHOXY POLYETHYLENE GLYCOL-CONJUGATED PHOSPHOTRIESTERASE AS A POTENTIAL CATALYTIC BIOSCAVENGER AGAINST ORGANOPHOSPHATE POISONING

Daniel Rochu (La Tronche, France): PARAMETERS INFLUENCING STABILITY AND ACTIVITY OF HUMAN PARAOXONASE-1

Clement E Furlong (Seattle, USA): HUMAN PON1 – A BIOMARKER FOR RISK OF DISEASE AND EXPOSURE

Tsafrir S Mor (Tempe, USA): PLANT PRODUCEDHUMAN PROTEINS AS ANTICHOLINERGIC BIOSCAVENGERS

Klara Bulc Rozman (Ljubljana, Slovenia): PARAZOANTHOXANTHIN A BLOCKS TORPEDO NICOTINIC ACETYLCHOLINE RECEPTORS

3D SESSION

Martin Weik (Grenoble, France): STRUCTURAL DYNAMICS OF ACETYLCHOLINESTERASE

Fredrik Ekström (Umeå, Sweden) *(crystallography)* and **Yuan-Ping Pang** (Rochester, USA) *(simulation):* STRUCTURE OF HI-6-SARIN-ACETYLCHOLINESTERASE DETERMINED BY X-RAY CRYSTALLOGRAPHY AND MICROSECOND MOLECULAR DYNAMICS SIMULATION: REACTIVATOR MECHANISM AND DESIGN

Yves Bourne (Marseille, France): COMPARATIVE OVERVIEW OF NEUROLIGIN VERSUS ACETYLCHOLINESTERASE AND THEIR RESPECTIVE NEUREXIN AND FASCICULIN COMPLEXES

Florian Nachon (La Tronche Cedex, France): COMPARISON OF LIGAND BINDING TO BUTYRYLCHOLINESTERASE AND ACETYLCHOLINESTERASE

Ophélie Kwasnieski (Paris, France): FIXATION OF THE TWO TABUN ISOMERS IN ACETYLCHOLINESTERASE: A QM/MM STUDY

Nagarajan Pattabiraman (Silver Spring, USA): SIMULATIONS OF THE BINDING OF OXIMES TO HUMAN ACETYLCHOLINESTERASE INHIBITED BY G- AND V-AGENTS

SESSION 6: Diseases Related to Cholinesterases and Therapy with Cholinesterase Inhibitors

Giancarlo Pepeu (Florence, Italy): CHOLINESTERASE INHIBITORS AND COGNITIVE PROCESSES

Ezio Giacobini (Geneva, Switzerland): CHOLINESTERASE INHIBITORS ROLE IN THE THERAPY OF ALZHEIMER DISEASE

Taher Darreh-Shori (Stockholm, Sweden): APOLIPOPROTEIN E AND A□ MAY AFFECT THE CHOLINERGIC NEUROTRANSMISSION BY BOOSTING THE ACTIVITY AND STABILITY OF CHOLINESTERASES IN THE BRAIN

Ninoslav Mimica (Zagreb, Croatia): THE CHOLINESTERASE INHIBITORS – CURRENT CLINICAL VIEW AND CROATIAN REALITY

Manuela Bartolini (Bologna, Italy): FAST *vs* IN-DEPTH CHARACTERIZATION OF NEW CHOLINESTERASES INHIBITORS BY IMMOBILIZED ENZYME REACTORS

Diego Muñoz-Torrero (Barcelona, Spain): HUPRINE-TACRINE HYBRIDS AS A NOVEL FAMILY OF MULTI-TARGET DRUG CANDIDATES AGAINST ALZHEIMER'S AND PRION DISEASES

Ljiljana Popović (Zagreb, Croatia): THE VALUE OF PLASMA CHOLINESTERASE IN CHILDREN WITH SEVERE LIVER DISEASE

Julian R Haigh (Silver Spring, USA): PROTECTION BY PYRIDOSTIGMINE BROMIDE OF MARMOSET HEMI-DIAPHRAGM FUNCTION AND ACETYLCHOLINESTERASE ACTIVITY AFTER SOMAN EXPOSURE

Yang Gao (Rochester, USA): LASTING TRANSDUCTION OF COCAINE HYDROLASE BY HELPER-DEPENDENT ADENOVIRAL VECTOR